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IN THE UNITED STATES PATENT & TRADEMARK OFFICE

IN RE APPLICATION OF: Tetsuro MOTOYAMA

DECLARATION UNDER 37 CFR 1.132

Honorable Commissioner of Patents & Trademarks  
Washington, D.C. 20231

Sir:

I, Tetsuro Motoyama, declare that:

1. There has been a long-felt need for reduced cost remote diagnosis and/or control and/or monitoring of office devices such as business office devices which include copiers, printers, facsimile machines, and the like. The goal of any commercial business is to reduce costs and to increase profits. Human labor and travel can be expensive and for a long period of time, there has been a desire to reduce the cost of diagnosing and/or monitoring and/or controlling an office device. While there are many prior art solutions which demonstrate a desirability to reduce costs in the diagnosis, control, and/or monitoring of an office device, none of these prior art solutions are as inexpensive as a remote diagnosis and/or monitoring and/or control system for offices devices which utilizes electronic mail (e-mail) or Internet electronic mail.
2. Examples of the long-felt need and prior art attempts to provide an inexpensive remote monitoring and/or control and/or diagnosis system of an office device are as follows:
  - A. U.S. Patent 3,997,873, filed March 31, 1975, indicates in the Background section that there is a disadvantage with a monitoring counter within a copier because such counter within the copier must be manually examined and recorded. The Background section further explains that there is a desirability to reduce costs of the photocopy system and provides a remote monitoring system to reduce such costs. However, such a system does not have the advantages or benefits of a low cost easy to set up system which uses electronic mail such as Internet electronic mail.
  - B. U.S. Patent 4,167,322 filed July 31, 1978, discloses in the Background section a desirability of being able to monitor at remote locations the status of a copying machine. However, this patent does not disclose a system which utilizes electronic mail or Internet electronic mail and therefore does not achieve the advantages of a low cost easy to set up system.

- C. U.S. Patent 4,496,237 filed August 9, 1982, discloses at the beginning of the Background section the deficiencies of prior art systems in which it is difficult to monitor or display information remotely related to a copier machine. The invention talks about the desirability to display an indication of components of the copier and to provide easy access to such information. However, this patent does not disclose the use of e-mail or Internet electronic mail and therefore does not provide the cost savings or ease of set-up associated with a remote monitoring system which utilizes electronic mail or Internet electronic mail.
- D. U.S. Patent 5,077,582, filed April 20, 1989, discloses in the Background section that manual monitoring of photocopying machines suffers disadvantages and "a loss of time and money for both the customer and the billing center." The patent also discloses in the Background section problems with conventional remote monitoring systems. However, such systems are not as inexpensive and easy to set up as systems which utilize electronic mail such as Internet electronic mail.
- E. U.S. Patent 5,084,875, filed December 13, 1989, discloses in the Background section, remote reporting of the status of a copy machine. This system is described as using a telephone line. Such a system is not as inexpensive or easy to set up as a system which uses e-mail such as Internet electronic mail.
- F. U.S. Patent 5,214,772, filed August 14, 1990, discloses the same type of monitoring system and shortcomings as U.S. patent 5,084,875 described above.
- G. U.S. Patent 5,138,618, filed March 6, 1990, discloses in the Background section, a desire not to have a repairman visit the site of copiers and laser printers in order to determine the cause of a malfunction. The Background section explains problems of the need to return to the location after an initial diagnosis at the location and this results in the problem of increased costs. Thus, there is a desire or need to have a more inexpensive remote monitoring and/or control and/or diagnostic system and the system of the invention of U.S. Patent 5,138,618 has a telephone line as the preferred embodiment of a communication line which is more expensive than the use of electronic mail such as Internet electronic mail.
- H. U.S. Patent 5,787,149, filed November 16, 1995, states a desirability to have a remote monitoring of copiers which is not expensive, time consuming, labor intensive, or error prone. The solution of U.S.P. 5,787,149 is to use a cellular radio as the communication medium for the remote monitoring. However, such a remote monitoring using cellular radios is more expensive and more complicated to set up than using an e-mail based system such as Internet electronic mail.

3. Based on the above, there was clearly a recognized need from 1975 to at least 1995 for an inexpensive system which monitors and/or controls and/or diagnosis office devices such as business office devices.
4. While the use of e-mail such as Internet e-mail for the remote diagnosis and/or control and/or monitoring of office devices was not known or used by others in June of 1995, the separate elements of such as system were available to those skilled in the art. Such a conclusion is supported by the document entitled, "A Brief History of the Internet, by Liner et al., published by the Internet Society ([HTTP://www.isoc.org/internet/history/brief.html](http://www.isoc.org/internet/history/brief.html)) describes technology relating to the Internet and electronic mail, and when it was available, a copy of which is attached as Exhibit A. ARPANET, which grew into the Internet, was available and operating in the early 1970s. This document explains the second-to-last paragraph of the section entitled "The Interneting Concepts", in reference to the ARPANET and the Internet that:

electronic mail has probably had the most significant impact of the innovations from that era. Email provided a new model of how people could communicate with each other, and changed the nature of collaboration, first in the building of the Internet itself (as discussed below) and later for much of society.
5. The History of the Internet further explains in the paragraph immediately before the heading "Transition to Widespread Infrastructure,"

Thus, by 1985, Internet was already well established as a technology supporting a broad community of researchers and developers, and was beginning to be used by other communities for daily computer communications. Electronic mail was being used broadly across several communities, often with different systems, but interconnection between different mail systems was demonstrating the utility of broad based electronic communication between people.
6. Thus, there is clear evidence that before 1985, Internet electronic mail was in use. This History also shows that electronic mail was introduced with regard to ARPANET in 1972.
7. It is my opinion that while a system in which a business office device is remotely diagnosed, controlled, and/or monitored using a telephone line is less expensive than sending a repairman to the site of the business office device, such a system does not satisfy the long-felt but unresolved need for an inexpensive system.
8. The use of telephone line for remote diagnostics has costs associated with the use of a telephone line. There are expenses associated with each long distance call which is placed by the remote diagnostic system. Also, depending on the nature of the billing agreement with the telephone company, there may be charges associated with placing local calls. The company for which I work,

Ricoh, has a commercially operational remote diagnostic system. The telephone charges associated with such a system are a significant expense, estimated to be greater than 5% of the cost to operate the system. If a 5% reduction in cost of the Ricoh remote diagnostic system could be achieved, a significant commercial advantage would result.

9. In remote diagnostic systems which use telephone lines, not only may there be a charge for each use of the telephone line, but there is also a monthly charge for the phone line, regardless of use. While there may be a monthly charge for maintenance of a non-telephone connection to the Internet for email, such an Internet charge will usually be incurred even without the use of the email for remote diagnosis and/or monitoring and/or control as most companies have Internet email anyway, and there is usually no additional charge for additional transmission or receipt of additional email such as email related to the diagnosis, and/or control, and/or monitoring of a business office device. However, if a telephone line is used for the remote operations related to the business office device, the telephone line is usually dedicated to the business office device, especially in order for the business office device to receive phone calls related to remote monitoring and/or control, and/or diagnosis.
10. Based on paragraphs 9 and 10, it is my opinion that monitoring and/or controlling and/or diagnosing business office devices using a telephone line does not satisfy the long-felt but unresolved need. Something which is less expensive than the use of telephone lines was still highly desirable in June of 1995.
11. I have shown above that there existed a long-felt but unresolved need, and have also shown that the technology to implement a solution to the long-felt but unresolved need existed for at least 10 years, if not 20 years before my invention. My invention satisfies the long-felt need in that it provides a very inexpensive method for remotely monitoring and/or controlling and/or diagnosing remote devices such as office devices or business office devices. Moreover, my invention is easy to set up because there is no need to have specially dedicated communication channels outside of an office environment for e-mail communications, as such communication channels already existed in the past through the ARPANET and Internet, and exist today through the Internet.
12. I believe that a basic understanding of e-mail and electronic mail demonstrates that my invention solves the above-described long-felt need. However, after my invention of using e-mail to diagnose, and/or monitor, and/or control office devices, others are now using a same or similar solution of e-mail, thus proving that my invention does in fact satisfy the above-explained long-felt need.
13. Minolta, in Europe, sells printers having a function called DiAlta-NET, which is a remote billing and monitoring tool. See the attached Exhibit B. As described in Exhibit B, "This remote diagnosis system sends information on counter readings, lifetime pre-warning or lifetime end messages, and details of

any critical problems by e-mail to the service center." The press release goes on to describe the advantages of the system. "The benefits to the user are clear. Maintenance time, machine downtime and service calls are reduced, maintenance periods carefully monitored, counter readings no longer necessary and billing automated - all benefits that save the user time and money." Thus, an independent third party explains how remote diagnosis and monitoring utilizing electronic mail saves time and money, thus solving the previous long-felt but unresolved need. However, Minolta has apparently solved this problem around the year 2001, whereas I have solved a problem utilizing an e-mail solution by 1995.

10. In the year 1999, I believe that Xerox came out with the NC60 printer which had e-mail features related to remote monitoring of a printer using Internet e-mail. See Exhibit F. This e-mail features for printers was extended to the N series of network laser printers in the year 2000. These printers include the MaiLinX e-mail alert. See the attached Exhibit C dated February, 2000. As an example of the Xerox NC60 printer, Exhibits D and E illustrate the specific information which can be notified via e-mail. Thus, Xerox recognized by the year 1999 the benefits of an e-mail system, whereas I have solved a long-felt need utilizing an e-mail solution by 1995.
11. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

3 May 2001  
Date

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